Name:

*Mr. Tiénou-Gustafson & Mr. Bielmeier*

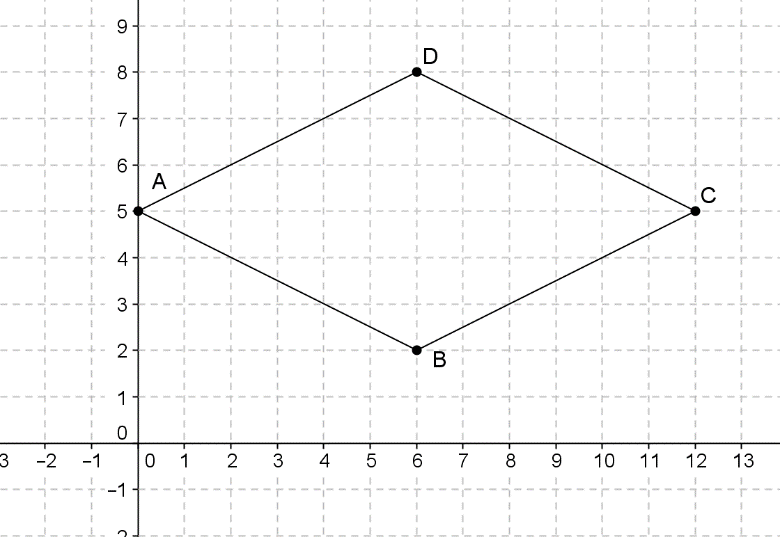
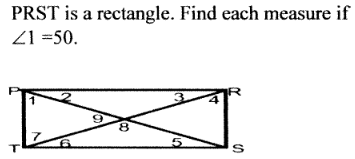
Geometry, Period

Due Date: Mon, 23 Mar 2015

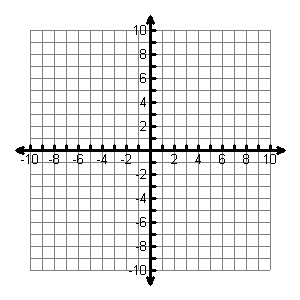
**Geometry**

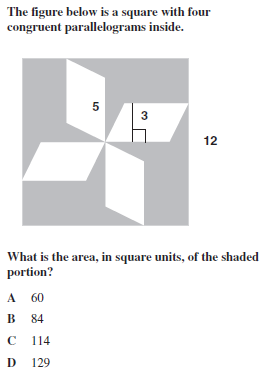
**Homework**



1. Use the figure to the right to answer the following questions. 
2. What shape is this? Be as specific as you can. How do you know?   
   (Use characteristics of this shape – “it looks like it” isn’t good enough, and congruence markings don’t prove anything without math behind them!)
3. Draw in the diagonals. Annotate everything that you know about the diagonals for this shape.
4. What do you know about the angles formed by the intersection of the diagonals?
5. We know that the area of a parallelogram is the base times height. However, this is difficult to find for this shape since we don’t have an altitude. How else could you calculate area using the diagonals and without finding any angles? (No trig or inverse trig required!) Show your work!
6. PRST is a rectangle. Find the measure of each numbered angle if m∠1 = 50°.



1. Quadrilateral EMIL is a rectangle.
   1. If LM = 2x + 26, find the value of x.
   2. What is m∠ELY?
2. Write the equations of four lines that will create a rectangle. **Your equations cannot produce horizontal or vertical lines.** In complete sentences, mathematically explain how you know that you have created a rectangle.
3. The painting below is made up of a square and 4 congruent parallelograms. Find the area of the shaded region ***in inches*** if the given measurements are in feet.



1. A rhombus has 25-cm sides, and one diagonal is 14 cm long. How long is the other diagonal? (A picture would help!)
2. Two similar rhombi have a similarity ratio of 2:7. The diagonals of the smaller rhombus have lengths 18 and 24. How long are the sides of the larger rhombus?
3. Suppose that *PQRS* is a rhombus, with and a 60-degree angle at *Q*. How long are the diagonals *PR* and *QS*?